SWITCH QUEUE PREDICTIVE PROTOCOL (SQPP)
BASED PACKET SWITCHING TECHNIQUE

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ABSTRACT

A switch queue predictive protocol (SQPP) includes a packet switching system including: a switch fabric having a cross-point switch, and a plurality of line cards, each coupled to the switch fabric. A cross-point buffer is located at each cross-point of the cross-point switch. The switch fabric also includes a plurality of actual available queue space tables (AAQSTs), each identifying the actual queue space available in a row of the cross-point buffers. Each of the line cards includes an input buffer, an output buffer, and a predicted available queue space table (PAQST) identifying predicted queue space available in a corresponding row of the cross-point buffers. Packet information is transmitted from a source line card to the switch fabric only if available queue space is predicted by the corresponding PAQST. The switch fabric uses the AAQST to update the PAQST after packet information is transmitted to a destination line card.